

PCT

**WORLD INTELLECTUAL PROPERTY ORGANIZATION**  
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 :  A61N 1/368, A61B 5/04		A1	(11) International Publication Number: WO 93/02746  (43) International Publication Date: 18 February 1993 (18.02.93)
<p>(21) International Application Number: PCT/US92/04648</p> <p>(22) International Filing Date: 4 June 1992 (04.06.92)</p> <p>(30) Priority data: 737,947 30 July 1991 (30.07.91) US</p> <p>(71) Applicant: MEDTRONIC, INC. [US/US]; 7000 Central Avenue, N.E., Minneapolis, MN 55432 (US).</p> <p>(72) Inventor: OLSON, Walter, H.; 16 Hay Camp Road, North Oaks, MN 55127 (US).</p> <p>(74) Agent: DUTHLER, Reed, A.; Medtronic, Inc., 7000 Central Avenue, N.E., Minneapolis, MN 55432 (US).</p>		<p>(81) Designated States: AU, CA, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE).</p> <p>Published With international search report.</p>	
<p><b>(54) Title: METHOD AND APPARATUS FOR TACHYARRHYTHMIA DETECTION AND TREATMENT</b></p> <p><b>(57) Abstract</b></p> <p>An implantable cardioverter capable of delivering pacing and cardioversion level therapies. The device distinguishes between stable and unstable ventricular tachyarrhythmias by monitoring the progression of atrial cycle lengths during the detected ventricular tachyarrhythmia. A detected increase in atrial cycle lengths during the early stages of the detected ventricular tachycardia is taken as an indication of hemodynamically unstable ventricular tachycardia (122).</p> <pre> graph TD     A[EXAMINE SEQUENCE OF RECENT INTERVALS] --&gt; B[VCL &gt; ACL]     B --&gt; C[COMPARE AVG ACL &lt; VCL]     C --&gt; D{Sudden Onset?}     D -- NO --&gt; E[118]     D -- YES --&gt; F[124]     E --&gt; G[118]     F --&gt; H{ACL DECREASE OVER 15s?}     H -- NO --&gt; I[122]     H -- YES --&gt; J{ACL DECREASE IN 240s?}     J -- NO --&gt; K[120]     J -- YES --&gt; L[121]     K --&gt; M[122]     L --&gt; M[122]   </pre>			

